

AMENDMENTS TO THE CLAIMS

Pursuant to 37 C.F.R. § 1.121 the following listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) ~~In a~~ A booster circuit wherein energy is stored in an inductor when a switching element is on and said energy is superposed onto an input voltage to charge a capacitor disposed at an output side when said switching element is off, ~~a~~ the booster circuit comprising:

a detecting means detecting said input voltage and an actual booster voltage on said capacitor side;

a target booster setting means setting a target booster voltage;

a duty ratio setting means comprising an A/D converter, said duty ratio setting means performing proportion, integration and differentiation operations to calculate a control value for the switching element and setting a duty ratio corresponding to said control value so that deviation between said target booster voltage and said actual booster voltage is eliminated; and

a controlling means calculating a correction value based on an input voltage change obtained from said input voltage, correcting said duty ratio with said correction value, and performing feedback control based on said corrected duty ratio by turning said switching element on and off.

2. (Original) A booster circuit as described in claim 1 wherein said correction value is a ratio between an input voltage change calculated from said input voltage and said target booster voltage.

3. (Original) A booster circuit as described in claim 1 wherein said correction value is a ratio between an input voltage change calculated from said input voltage and said actual booster voltage.

4. (Currently Amended) ~~In a~~ A method for controlling a booster circuit wherein energy is stored in an inductor when a switching element is on and said energy is superposed onto an input voltage to charge a capacitor disposed at an output side when said switching element is off, ~~a~~ the method for controlling a the booster circuit comprising the steps of:

detecting said input voltage and an actual booster voltage on said capacitor side;

setting a target booster voltage;

performing proportion, integration and differentiation operations to calculate a control value for the switching element;

setting a duty ratio corresponding to said control value to eliminate a deviation between said target booster voltage and said actual booster voltage;

calculating a correction value based on an input voltage change obtained from said input voltage; and

performing feedback control by turning on and off said switching element based on a new duty ratio formed by correcting said duty ratio with said correction value.

5. (Original) A method for controlling a booster circuit as described in claim 4 wherein said correction value is a ratio between said input voltage change calculated based on said input voltage and said target booster voltage.

6. (Original) A method for controlling a booster circuit as described in claim 4 wherein said correction value is a ratio between said input voltage change calculated based on said input voltage and said actual booster voltage.

7. (Original) A booster circuit as described in claim 2 wherein said controlling means comprises a correcting means for calculating said correction value.

8. (Original) A booster circuit as described in claim 7 wherein said correcting means is a booster control module.

9. (Currently Amended) A method for controlling a booster circuit as described in claim 5 wherein ~~said controlling means comprises a correcting means for~~ the step of calculating said

correction value is performed by a controlling means, said controlling means comprising a correcting means.

10. (Currently Amended) A method for controlling a booster circuit as described in claim 9 wherein said correcting means is a booster control module.

11. (Original) A booster circuit as described in claim 3 wherein said controlling means comprises a correcting means for calculating said correction value.

12. (Original) A booster circuit as described in claim 11 wherein said correcting means is a booster control module.

13. (Currently Amended) A method for controlling a booster circuit as described in claim 6 wherein ~~the step of said controlling means comprises a correcting means for~~ calculating said correction value is performed by a controlling means, said controlling means comprising a correcting means.

14. (Currently Amended) A method for controlling a booster circuit as described in claim 13 wherein said correcting means is a booster control module.